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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,190	12/31/2003	Byoung-Gon Lee	51876P574	9880

8791 7590 10/10/2006

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EXAMINER	
PEREZ, ANGELICA	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/749,190	LEE, BYOUNG-GON	
	Examiner	Art Unit	
	Perez M. Angelica	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (Yamamoto et al.; US Pub. No.: 2004/0,198,437 A1) in view of Takayuki (Takayuki, Kudo; JP Pub. No.: 2000-332871).

Regarding claim 1, Yamamoto teaches of a sliding-type mobile communication terminal having a camera interlocking device (paragraphs 12 and 37-38; figure 3a, item 104), comprising: a main body having a main printed circuit board (paragraph 41); a sliding body slidably mounted on the main body (see figure 2B, item 100A is mounted on item 200 corresponding to the main portion of the apparatus); a camera module being installed in the main body (paragraphs 37-38, item 104 in figure 3A); front and back openings through which the camera module is exposed to an external side figure 3A, item 104; where the "image pick-up device" is exposed from the front and back of element 100, see figure 3B), the front and back openings being formed in front and back of the main body (where the "image pick-up device" is exposed from the front and back of element 100, see figure 3B), respectively; and interlocking means for rotating the

camera module with a sliding motion of the sliding body on the main body (paragraphs 51 and 58, figures 3A-3C).

Yamamoto does not specifically teach where the camera is installed in the main body.

In related art concerning a mobile video communication terminal, Takayuki teaches where the camera is installed in the main body (figure 1, item 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Yamamoto's slide-type portable information apparatus with Takayuki's positioning of the camera as an alternative to the arrangement presented.

Regarding claim 2, Yamamoto in view of Takayuki teaches all the limitations of claim 1. Yamamoto further teaches of comprising guide means for guiding the sliding motion of the sliding body on the main body (figure 4, items 300a and 300b).

Regarding claim 7, Yamamoto in view of Takayuki teaches all the limitations of claim 2. Takayuki further teaches where the guide means includes: guide rails formed on one of the sliding and stationary bodies (figure 3, items 5c); guide grooves formed on the other one of the sliding and stationary bodies to guide the guide rails (figure 3, item 7a); and a stopper for limiting the sliding motion of the sliding body at a point where the sliding motion of the sliding body is finished (page 2, paragraph 14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Yamamoto's slide-type portable information apparatus

with Takayuki's sliding and stationary bodies and stopper in order to reach a wrap location of the camera, as suggested by Takayuki.

3. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (Yamamoto et al.; US Pub. No.: 2004/0,198,437 A1) in view of Takayuki and further in view of Eromäki (Eromäki t al.; US006748249B1).

Regarding claim 3, Yamamoto et al. and Takayuki teach all the limitations of claim 1.

Yamamoto et al. and Takayuki do not specifically teach where the interlocking means includes: a rack gear formed on a surface of the sliding body in a sliding direction; and a camera module gear engaged with the rack gear to rotate the camera module.

In related art, regarding an electronic device with sliding lid, Eromäki teaches a rack gear formed on a surface of the sliding body in a sliding direction; and a camera module gear engaged with the rack gear to rotate the module (figure 4, items R1 and R2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Yamamoto in view of Takayuki slide-type portable information apparatus with Eromäki's rack gear in order for the user to easily reveal the user interface of the device, where the mechanical aspect has been considered.

Regarding claim 4, Yamamoto in view of Takayuki teaches all the limitations of claim 1.

Takayuki in view of Takayuki does not specifically teach where the interlocking means includes: a rack gear disposed on a back of the sliding body opposing the front of the main body; an intermediate idle gear disposed adjacent to the camera module and engaged with the rack gear; and a camera module gear associated with the camera module and engaged with the intermediate idle gear.

In related art, regarding an electronic device with sliding lid, Eromäki teaches where the interlocking means includes: a rack gear disposed on a back of the sliding body opposing the front of the main body (figure 4, item R2); an intermediate idle gear disposed adjacent to the camera module and engaged with the rack gear (item T1); and a camera module gear associated with the camera module and engaged with the intermediate idle gear (figure 4, items SL2; where the mechanical aspect of the device is shown).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Yamamoto in view of Takayuki slide-type portable information apparatus with Eromäki's rack gear in order for the user to easily reveal the user interface of the device, where the mechanical aspect has been considered.

Regarding claim 5, Yamamoto, Takayuki and Eromäki teach all the limitations of claim 3. Eromäki further teaches where a gear ratio between the rack gear and the camera module gear is determined such that a lens part of the camera module is exposed to the external side through the front or back opening at a point where the sliding movement of the sliding body upward or downward is finished (column 4, lines 13-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Yamamoto in view of Takayuki slide-type portable information apparatus with Eromäki's ratio in order to reveal the full display for use, as taught by Eromäki.

Regarding claim 6, Yamamoto, Takayuki and Eromäki teach all the limitations of claim 4. Eromäki further teaches where gear ratios among the rack gear, the idle gear and the camera module gear are determined such that a lens part of the camera module can be exposed to the external side through the front or back opening at a point where the sliding movement of the sliding body upward or downward is finished (column 4, lines 13-20; where the full screen is revealed when the sliding is finished).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Yamamoto in view of Takayuki slide-type portable information apparatus with Eromäki's ratio in order to reveal the full display for use, as taught by Eromäki.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angelica Perez whose telephone number is 571-272-7885. The examiner can normally be reached on 6:00 a.m. - 1:30 p.m., Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either the PAIR or Public PAIR. Status information for unpublished applications is available through the Private PAIR only. For more information about the pair system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Information regarding Patent Application Information Retrieval (PAIR) system can be found at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service number is 703-306-0377.

Lana N. Le
09-29-06
LANA LE
PRIMARY EXAMINER

Angelica Perez
Examiner

Art Unit 2618

September 28, 2006